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AUTHOR Griffin, Robert E.; And Others
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ABSTRACT

The purpose of this study was to measure how well business and professional people from various cultures interpret symbols commonly used in international business presentations. Questionnaires contained 15 black and white symbols, selected from the clip art collection of Harvard Graphics business graphics software. Respondents from the United States, Sweden, Tanzania, and Japan were asked to write free-form responses classifying the symbols. The symbols were divided into three categories--verbal symbols, pictorial symbols, and abstract symbols--each of which is defined. Symbols in the verbal category were either clearly understood or not understood at all by the subjects, with little middle ground. Results concerning pictorial symbols clearly show the following rank order of understanding based on country, with highest rate of understanding first: United States, Sweden, Tanzania, and Japan. This rank order is probably due to the fact that most symbols used in the study were designed for a predominantly U.S. audience. Abstract symbols were the most difficult for all audiences to comprehend, indicating that abstract symbols are culturally dependent. The results offer some guidance to visual designers. It is recommended that when using symbols in presentations, symbols should be used which are designed for the culture, and the use of symbols should be restricted to verbal and pictorial symbols. Data is presented in eight figures. An appendix provides data recorded by symbol and country, shown as percentages. (MAS)

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Using Symbols in International Business Presentations: How Well Are They Understood?

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Robert E. Griffin
Rune Pettersson
Ladislau Semali
Yasuo Takakuwa

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Purpose Of The Study:

Do clip art and other graphic additions enhance the communicative ability of overhead transparencies and slides used in business presentations? Should we assume they help or might they hinder a presentation? This study was undertaken to amplify a previous study by Griffin (1993). The purpose of the original study was to determine how well commonly used graphic symbols were understood by business people in the United States. However, since much of today's business is conducted in a global environment, it is important that any study of business presentations should take a world perspective. Many researchers have tried to point out the highly biased nature of visual communication. Berger (1989) said that we do not just see but that we have to learn to see and what to see. Forsdale (1981) described that background, accumulation of experiences and culture are critical for interpretation of visual images. These authors, and many more, have pressed for a deeper awareness of differences and biases in the selection of images that we use in messages. All of these authors remind us that the selection of visuals to be used in a presentation is not merely selecting pretty pictures, but rather part of the scientific process of complete

message design. Simply adding a picture to a message does not enhance the message.

The purpose of the study reported in this paper is to measure how well business and professional people from various cultures interpret symbols that would be commonly used in international business presentations. The researchers in this study had business contacts with audiences in different countries. The researchers and their countries were:

- Robert E. Griffin - United States
- Rune Pettersson - Sweden
- Ladislau Semali - Tanzania
- Yasuo Takakuwa - Japan

How The Study Was Conducted:

The research was conducted by administering questionnaires to subjects in the United States, Sweden, Tanzania and Japan. The questionnaire consisted of fifteen black and white symbols with a space for the subjects to write a free form response. The symbols were the same as those used in the original Griffin (1993) study. The symbols were selected from the clip art collection of Software Publishing's Harvard Graphics business graphics software. Each researcher tested

the subjects from their own country. Each made an attempt to limit the subjects to those who would be classified as part of a business population rather than non-business people. For those readers who are interested in all of the responses from all of the countries, we have included the data in Appendix A at the end of this report. Statistics about the subjects selected are shown in Figure 1.

Country	Surveyed	Mean Age
USA (N=87)	M=43	26.1
	F=23	24.7
	Unknown=21	
Sweden (N=81)	M=49	40.9
	F=32	37.3
Tanzania (N=76)	M=45	39.8
	F=30	33.2
Japan (N=58)	M=39	42.0
	F=15	23.1
	Unknown=4	
	Unknown=1	

Figure 1 - The Research Population

Each researcher administered the questionnaire to the subjects in his own country and translated the answers into English. The completed questionnaires were then sent to one of the researchers on the team for classification and tabulation. This person classified all of the questionnaires at one time in order to minimize any categorization problems. It was felt that even if all members of the research team did not agree with the eventual classifications, at least the classifications would be consistent. This method was also used in the original Griffin (1993) study. The data was then compiled, graphed and sent to each of the researchers for interpretation and comment.

The interpretations were then compiled and circulated to all of the authors' and each was able to comment by using a round robin arrangement.

Methods For Interpreting Symbols:

Many methods have been established for classifying symbols. When this team of researchers first examined the compiled data it was difficult to make any sense from what the data said. None of the classic classification categories helped in the interpretation. A method of classification, which was first suggested by Pettersson for this study, was eventually developed by the team. The tested symbols were divided into three categories: verbal symbols, pictorial symbols and abstract symbols.

Verbal symbols were defined as letters or alpha numeric characters used as a picture which were known by a specific population. Symbols used in the study which fell into this category were: pesetas, information, copyright and the British pound. These symbols are shown in Figure 2.



Figure 2 - Verbal Symbols Used In The Study

Pictorial symbols were presentations seen as real items. The drawings need not be perfectly realistic, but they should be close renderings. Symbols which fell into this category were: oil drum, thumbs up, scientist, check, copier, semi and tanker. These symbols are shown in Figure 3.

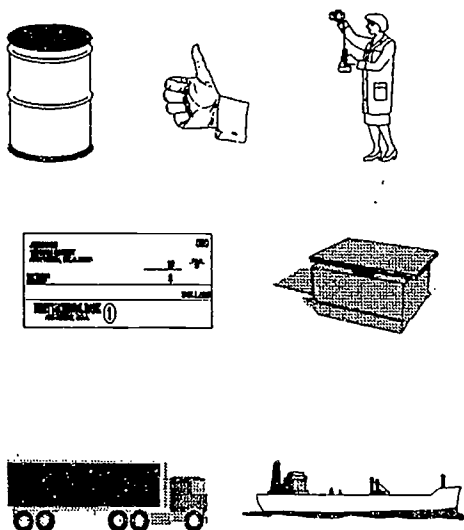


Figure 3 - Pictorial Symbols Used In The Study

Abstract symbols provided a great deal of variety in their interpretation. These symbols were also pictures or drawings, but the meaning was substantially broader than most would assume. It was a stretch of the imagination to move from symbol to definition. Symbols in this category were: award, mining, star and people. These symbols are shown in Figure 4.

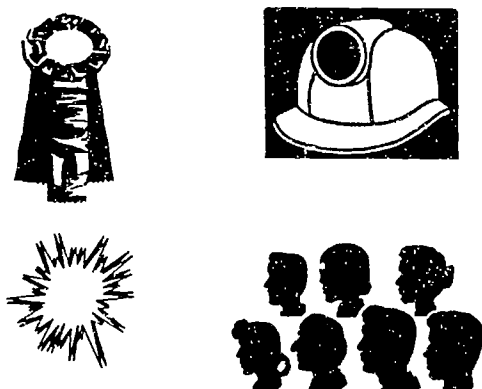
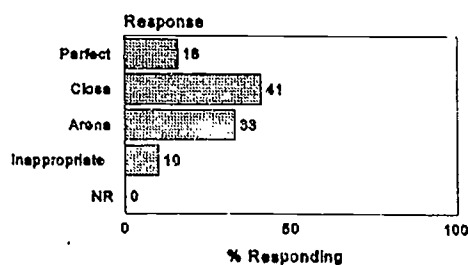


Figure 4 - Abstract Symbols Used In the Study

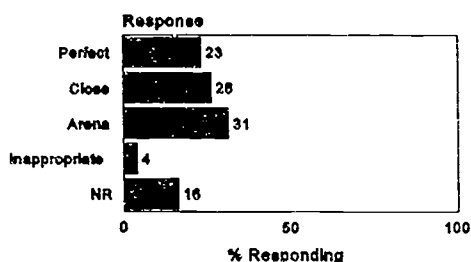
Observations From The Study:

Distinct observations can be made about each of the three classifications of symbols used in this study. The verbal symbols resulted in many interesting observations. Symbols in this category were either clearly understood or not understood by all the subjects. There was very little middle ground (or, as we called it in the paper, arena responses). In verbal symbols, if the subjects knew the language from which the letters or characters were derived, then they appeared to understand the symbol. Otherwise, there was confusion about the meaning of the symbol. As an example, in the U.S. and Sweden the information symbol was readily recognized. In this measure the U.S. recorded 16 perfect responses while Sweden recorded 23 perfect responses. This was a high number of perfect responses. This was not the case in Japan and Tanzania. For example, there were no perfect responses in Tanzania and only 14 perfect responses in Japan. More importantly with the Japanese data there were 64 inappropriate responses. One would speculate from this that the U.S. and Swedish population were familiar with the use of the question mark as used in standard English while the Japanese and Tanzania subjects were not. This data is shown in Figure 5.

U.S.



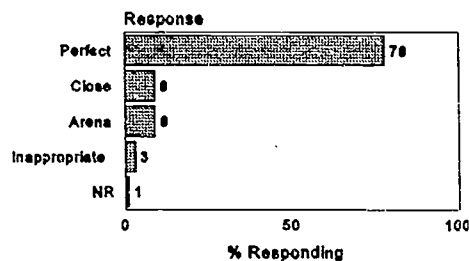
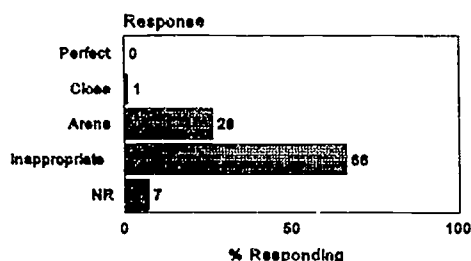
Sweden



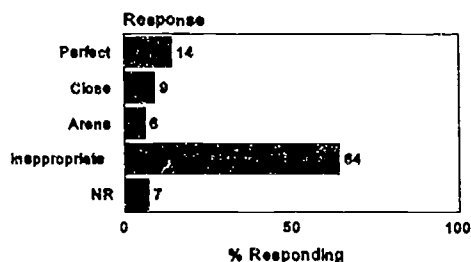
would expect a large number of perfect, or close, answers and very few inappropriate, or no, responses. The common sense reasoning for this is that the symbols look very much like the real object, therefore subjects should be able to identify them. For example, we can see that many subjects were able to readily identify the copier symbol. The data on the copier symbol is shown in Figure 6.

U.S.

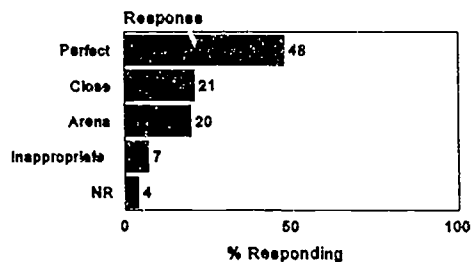
Tanzania



Japan



Sweden



Tanzania

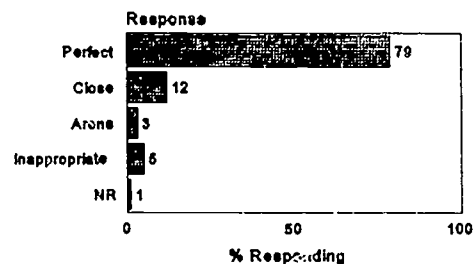


Figure 5 - Data For The InformationSymbol

The category of pictorial symbols contains what most of us think of as symbols. For symbols in this category we

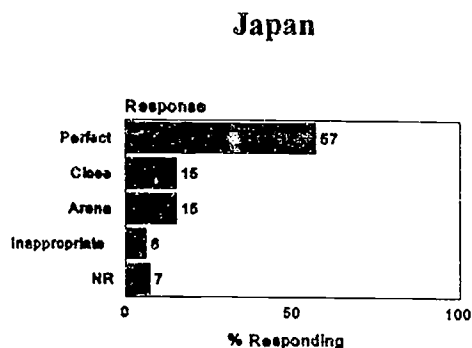


Figure 6 - Data For The Copier Symbol

However, a closer look at the data reveals some interesting statistics. If we look only at pictorial symbols we can see a clear rank order of understanding based on the country. The rank ordering of the mean number of correct responses is shown in Figure 7.

<i>USA</i>	<i>80</i>
<i>Sweden</i>	<i>69</i>
<i>Tanzania</i>	<i>60</i>
<i>Japan</i>	<i>48</i>

Figure 7 - Rank Order Of Means For Pictorial Symbols

It would be easy to assume from this order that the US population must be the most skilled at understanding the meaning of pictorial symbols. That assumption probably is not true. Instead, because the symbols used in this study were designed for a predominately US audience, the variation in responses is a result of cultural differences. This can be tested by using symbols designed for a Japanese audience to see if that results in higher scores in Japan and lower ones in Sweden, Tanzania and the United States.

Abstract symbols were the most

difficult symbols for all audiences to comprehend. Definitions differed by symbol and culture. These differences are shown in Figure 8.

Symbol	Japan	Sweden	Tanzania	U.S.
Award	Similar	Similar	Similar	Different
Mining	Different	Similar	Different	Similar
Star	Similar	Similar	Different	Different
People	Different	Different	Different	Different

Figure 8 - Differences In Abstract Symbols Compared Between Cultures

It appears that because abstract symbols are culturally dependent they are very difficult to understand.

It is also important to understand here that abstract symbols were very difficult to classify. For example, one of the researchers for this paper felt that the award symbol should have been classified as a pictorial symbol. For one culture this may have been a pictorial symbol, but for others it is an abstract symbol.

Conclusions Of The Study:

The study resulted in several conclusions about the use of visuals in business communication. The conclusions can be divided into general visual comments and international implications.

Let's first deal with a general conclusion about visuals.

Conclusion 1 - There are many ways to interpret symbols. Very few people will share the same understanding of any given symbol. Thus, when we consider the importance of business communication and the fragile nature of the message, business people must recognize

that symbols mean different things to different people. Those who are concerned about communicating an accurate message need to guard against the use of random and noncommunicative symbols in their message.

In this study it was common for subjects to give up to 20 meanings for each symbol. For example, the Swedish subjects gave 20 different definitions of the star symbol. Some examples of Swedish definitions for the star symbol were: bang, explosion, note, sun and highlight. The Japanese subjects provided 12 different definitions for the star symbol including: flash, explosion, sea urchin and danger. Clearly some symbols are difficult to interpret.

This conclusion provides some guidance to visual designers. If you must use symbols in presentations, use symbols designed for the culture and consider using only verbal or pictorial symbols. Using abstract symbols generally leads to communication difficulties.

The second conclusion deals with the international implications of the study.

Conclusion 2 - There are strong cultural differences in interpreting the meanings of symbols.

In a conclusion drawn by Pettersson, the Swedish member of the team, the symbols in this study were apparently designed for the U.S. market. An interesting irony is that the symbols were not particularly effective communication devices in the U.S. phase of the study. However, they were even less effective in the Swedish, Tanzanian and Japanese phases of the study. For symbols to be even minimally effective they must be designed for that culture.

Again, advice to visual designers based on this conclusion: do not fall into the trap of using symbols as communication devices that seem to be without language barriers. Symbols, when used in a culture for which they were not designed, appear to distract from communication. Visual designers who need visuals for use in other cultures should research their task very carefully.

This study of visual symbols has been a fascinating experience for all of the researchers involved. It has evolved from a simple idea developed around a luncheon table to an exciting and dynamic study with many implications yet to be explored. Our hope is that others join the work and add to the investigation of how and what visual symbols actually communicate.

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Appendix A
Date Recorded By Symbol and Country
Shown As Percentages

Award	Perfect	Close	Arena	Inappropriate	NR
U.S.	7	35	22	32	4
Sweden	8	6	1	78	7
Tanzania	1	2	1	78	17
Japan	0	3	2	79	16

Check					
U.S.	88	5	5	1	1
Sweden	60	5	19	15	1
Tanzania	50	15	34	0	1
Japan	27	22	32	17	2

Copier					
U.S.	78	9	9	3	1
Sweden	48	21	20	7	4
Tanzania	79	12	3	5	1
Japan	57	15	15	6	7

Copy-right					
U.S.	44	0	2	46	8
Sweden	58	2	0	31	9
Tanzania	12	0	1	73	14
Japan	3	2	0	76	19

Information					
U.S.	16	41	33	10	0
Sweden	23	26	31	4	16
Tanzania	0	1	26	66	7
Japan	14	9	6	64	7

Mining					
U.S.	4	36	51	7	2
Sweden	5	40	41	11	3
Tanzania	7	31	28	27	7
Japan	0	12	21	66	1

Oil Drum	Perfect	Close	Arena	Inappropriate	NR
U.S.	16	52	30	0	2
Sweden	27	49	25	8	0
Tanzania	4	44	9	31	12
Japan	0	52	38	7	3

People					
U.S.	26	27	42	5	0
Sweden	6	74	19	1	0
Tanzania	11	26	57	5	1
Japan	2	9	48	38	3

Pesetas					
U.S.	1	0	0	92	7
Sweden	19	1	0	54	26
Tanzania	0	0	0	80	20
Japan	0	0	0	72	28

Pound					
U.S.	73	6	2	13	6
Sweden	70	15	3	9	3
Tanzania	95	5	0	0	0
Japan	16	3	2	62	17

Scientist.					
U.S.	15	45	34	3	3
Sweden	2	70	21	6	1
Tanzania	2	47	47	2	2
Japan	4	19	46	21	10

Semi					
U.S.	24	57	17	1	1
Sweden	6	60	33	1	0
Tanzania	2	43	52	1	1
Japan	14	24	52	7	3

Star	Perfect	Close	Arena	Inappropriate	NR
U.S.	1	72	20	6	1
Sweden	2	12	63	16	6
Tanzania	0	1	95	3	1
Japan	0	10	60	28	2
Tanker					
U.S.	24	60	13	2	1
Sweden	8	71	16	5	0
Tanzania	0	31	69	0	0
Japan	23	33	36	3	5

Thumbs Up	Perfect	Close	Arena	Inappropriate	NR
U.S.	19	67	3	11	0
Sweden	11	55	7	26	1
Tanzania	5	83	0	8	4
Japan	0	48	6	44	2